From: Kosmer, William, P.G.

To: Rupert, Richard; ODonnell, Marsha; Ayers, Geoffrey J; Rooney, Eric; Cooley, Marc B; Means,

Jennifer

CC: Richard Fetzer; Chase, Kelley; Helverson, Robert; Augustine, Kevin; Bisignani, Robert

Sent: 7/11/2013 9:40:36 AM

Subject: RE: EPA Dimock data summary and conclusions

Attachments: image001.emz

ΑII,

Information as requested from my PowerPoint presentation:

Parameter	Method	Parameter	Method
MANGANESE T	EPA 200.7	ARSENIC T	EPA 200.8
BARIUM T	EPA 200.7	SULFATE T	EPA 375.2
IRON T	EPA 200.7	MAGNESIUM T	EPA 200.7
STRONTIUM T	EPA 200.7	ALUMINUM T	EPA 200.7
TDS @180 C	SM 2540 C	CALCIUM T	EPA 200.7
CHLORIDE	SM 4500-CL	POTASSIUM T	EPA 200.7
Hardness T	SM 2340 B	LITHIUM T	EPA 200.7
рН	SM 4500H-B	SODIUM T	EPA 200.7
SPC @ 25.0 C	SM 2510B	ZINC T	EPA 200.7
ALKALINITY	SM 2320B	TURBIDITY	PM 180.1
BROMIDE	EPA 300.0	METHANE	BOL6019
T SUSP SOLID	USGS 1-3765	ETHANE	BOL6019
SELENIUM T	EPA 200.8	PROPANE	BOL6019

Some of the lines of evidence that are evaluated in a GMI case:

Predrill water quality
Postdrill water quality
Area background water quality samples
Headspace Screenings
Isotopic samples from water and gas wells
Well integrity evaluations (including E-logs)
Timelines
Local and Regional Geology
Fracture Trace analysis

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DIM0294742 DIM0294742

From: Rupert, Richard [mailto:Rupert.Richard@epa.gov]

Sent: Wednesday, July 10, 2013 8:56 AM

To: Kosmer, William, P.G.; ODonnell, Marsha; Ayers, Geoffrey J; Rooney, Eric; Cooley, Marc B; Means, Jennifer

Cc: Richard Fetzer; Chase, Kelley; Helverson, Robert; Augustine, Kevin; Bisignani, Robert

Subject: EPA Dimock data summary and conclusions

Jennifer,

First let me again thank you for taking DEP's time to brief us on the Manning situation. To me yesterday's meeting served a much larger purpose though: that being to discuss the experience with gas drilling and fracking that DEP has gained in the past years, and both EPA's and DEP's experience at Dimock. I personally gained greater understanding on several technical issues yesterday and hope the exchange of information will continue despite the many challenges both our staff's face.

In the spirit of yesterday's meeting I am forwarding to you a summary I prepared of the Dimock data. I think it mimics some of the conclusions we discussed yesterday and I would be very interested in any comments, corrections, etc. DEP folks might offer.

I hope that yesterday will not be a one off event, and more cooperation and collaboration will follow in the future.

v/r Rich

Richard Rupert, On-Scene Coordinator Region 3 EPA 1650 Arch Street Philadelphia, PA 19103 (215) 814-3463 215 514 8773 Mobile.

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